BLUEBOX UHF – Basic Controller with Integrated Antenna



iDTRONIC's BLUEBOX Controller & Antenna family is well suited for industrial and enterprise applications, where reliable, robust and well performing products are needed. All components are designed as a powerful combination for an easy and cost efficient system installation.

The BLUEBOX UHF – Basic Controller with Integrated Antenna can achieve a reading distance of up to 50 cm with SW adjustable RF power of up to +20 dBm. The combination of a modern RF module with the up to date BLUEBOX SDK enables an easy start for ambitious developers. This powerful device is available as an ETSI version for the European market or an FCC version for the North American market.

Applications:

- Industrial Automation
- Supply Chain
- Asset Tracking
- Access Control



Features

- 865–867 MHz (ETSI) or 902–928 MHz (FCC)
- Supports ISO18000-6C & EPC C1G2
- Up to +20 dBm (Software adjustable)
- Integrated Antenna
- Solutions for Near Field & Short-Range applications
- Possibility of using different RFID standards parallel in one application
- Several Standard Read Modes like Scan Mode, Notification Mode
- Integrated I/O ports
- 4 LEDs for status information
- Ruggedized product design and enclosures
- Unique SDK for all BLUEBOX products
- BLUEBOX SHOW applications software
- CE & FCC approved

Technical Data

Mechanical Specifications

Housing-Material: PC

Dimensions: $110 \times 140 \times 60 \text{ mm}$

Weight: 430 g Protection Class: IP65

Electrical Specifications

Power Supply: 24 VDC ± 10 %

Power Consumption: 3.5 W

Operating Frequencies: 865–867 MHz (ETSI) or

902-928 MHz (FCC)

Output Power: +20 dBm

Operating Distance: Up to 50 cm

Connectors: PG9

Antenna Connector: Internal Antenna

Digital I/O: 2 (opto-isolated)

Interface: RS232 + RS485

Environmental Conditions

Operating Temperature: -20 °C to +55 °C

Humidity: 5 % to 95 %

Features

Supported Transponders: ISO18000-6C,

EPC Class 1 Gen 2

Working Modes: Scan Mode,

Notification Mode

Status Display: 4 LEDs

Applicable Standards

Radio Regulation: CE & FCC

Order Code 5121U

BLUEBOX optional Accessories

Mounting and connection kits are available for all BLUEBOX Controllers and Antennas, which guarantee easy installation.

dustrial Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable) 09534 dustrial Power Supply (for control cabinet) - 110-240V to 24V / 50W (with out cable) 0954A 55 Industrial Power Supply (for control cabinet) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A 65 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A 65 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A 65 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A 66 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0964A 67 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0969A 67 Industrial Power Supply (as a part of the MT2 Min MT2 A Connector 0903A 68 Interface cable 3 meter with M12 & Supply Connector 9903U 69 Internal cable 3 meter with M12 connector 9903U 69 Internal cable 3 meter R58/U & Ω50 with TNC-TNC connector 9905U 69 Internal cable 3 meter R58/U & Ω50 with TNC-TNC connector 9951U 69 Internal cable 3 meter with M12 connector & open ends 0905A 69 Interna	Version	Order Coder
fice Power Supply (for office usage) - 110-240V to 24V / 20W (with 2 meter Cable & M12 Connector) 0952A Justiral Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable) 0953A Justiral Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable) 0954A 0954A 0954A 0954A 0954V 15W (without cable) 0954A 0954A 0954A 0954A 0954V 15W (without cable) 0954A 0954	Office Power Supply (for office usage) - 110-240V to 24V / 12W (with 2 meter Cable & M12 Connector)	0951A
dustrial Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable) 0954A 56 Industrial Power Supply (for control cabinet) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A Residual Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A Residual Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0954A Residual Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) 0902A With PGG Cables Persion 0902A Subject of the Power with M12 connector & open ends 0908A Internal Cable Subject of the Power with M12 connector & open ends 0908A Internal Cable Subject of the Power With PGC Connector 9903U Internal Cable Subject of Power Supply (able 3 meter with M12 connector of the Power Supply cable 3 meter with M12 connector & open ends 0905U Internal Cables	office Power Supply (for office usage) - 110-240V to 24V / 20W (with 2 meter Cable & M12 Connector)	0952A
55 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable) terface Cables aersion Order Code hermet interface cable 3 meter with M12 & RJ45 connector 9992A BB interface cable 3 meter with M12 & Sub-D9 connector 9999A 5232 IrR486 interface cable 3 meter with M12 connectors opened 3232 IR3485 interface cable 3 meter with M12 connectors opened aersion Order Code terna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U terna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U terna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U terna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U terna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9905U terna cable 3 meter with M12 connector & 0906U terna cable 3 meter with M12 connector & 0906U version Order Code consist of Connector 0901A version Order Code offices M12 Y - connector 0905A	ndustrial Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable)	0953A
Interface Cables Order Code ersion Order Code bernet interface cable 3 meter with M12 & RJ45 connector 0902A Bi interface cable 1 meter with M12 & RJ45 connector 0909A 2522 interface cable 3 meter with M12 & Sub-D9 connector 0903A 2522 interface cable 3 meter with M12 connector & open ends 0904A offbus interface cable 3 meter with M12 connectors 0908A ntenna Cables Order Code ersion Order Code intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U intenna adapter Ω50 TNC (Alle) - SMA (Female) 0906U intenna adapter Ω50 TNC - TNC 0951U intenna adapter Ω50 TNC - TNC 0951U intenna adapter Ω50 TNC - TNC 0952U arrious Cables Order Code ersion Order Code over Supply cable 3 meter with M12 connector & open ends 0901A 0 cable 3 meter with M12 connector & open ends 0905A 12 Connectors 0905A ersion Order Code offbus M12 Y - connector </td <td>ndustrial Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable)</td> <td>0954A</td>	ndustrial Power Supply (for control cabinet) - 110-240V to 24V / 15W (without cable)	0954A
Persion Order Code hermet interface cable 3 meter with M12 & RJ45 connector 0902A Bi interface cable 1 meter with M12 Mini USB & USB A connector 0909A Sizi interface cable 3 meter with M12 & RJ45 connector 0903A S232 / RS485 interface cable 3 meter with M12 connector & open ends 0904A ordibus interface cable 3 meter with M12 connector & open ends 0908A Internal Cables Persion Order Code Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9905U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9905U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9905U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9905U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 995U Itenna cable 3 meter with M12 connector & open ends 905EU Itenna carriadus Cables PERSION Order Code Order Supply cable 3 meter with M12 connector & open ends 905EA Order Code Order Supply cable 3 meter with M12 connector & open ends 905EA Order Code Order Supply (cable 3 meter with M12 connector & open ends 905EA Order Code Order Supply (cable 3 meter with M12 connector & open ends 905EA Order Code Order Supply (cable 3 meter with M12 connector & open ends 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3 meter with M12 connector 905EA Order Code Order Supply (cable 3	P65 Industrial Power Supply (for outdoor usage) - 110-240V to 24V / 50W (with PG9 cable glands & without cable)	0954A
hermet interface cable 3 meter with M12 & RJ45 connector 9902A 8B interface cable 1 meter with M12 Mini USB & USB A connector 9909A 8B interface cable 3 meter with M12 & Sub-P9 connector 9903A 5232 interface cable 3 meter with M12 connector & open ends 9904A ofbus interface cable 3 meter with M12 connectors 9908A Interna Cables 9903U ersion Order Code intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U itenna adapter Ω50 TNC (Male) - SMA (Female) 0906U itenna terminator Ω50 0952U articus Cables 9952U ersion Order Code ower Supply cable 3 meter with M12 connector & open ends 0905A ozable 3 meter with M12 connector & open ends 0905A 12 Connectors 0905A 212 Connectors 0907A offbus M12 T - connector 0906A ofbus M12 Connector 0906A ower Supply M12 connector 0910A ower Supply M12 connector 0913A ower Supply M12 connector	nterface Cables	
8B interface cable 1 meter with M12 Mini USB & USB A connector 0909A 9232 interface cable 3 meter with M12 & Sub-D9 connector 0903A 9232 interface cable 3 meter with M12 & Sub-D9 connector 0908A offibus interface cable 3 meter with M12 connectors 0908A offibus interface cable 3 meter with M12 connectors 0908A officer Code 0908A ottenna Cables 0908B ottenna cable 3 meter RG58/U & Q50 with TNC-TNC connector 9903U utenna cable 3 meter RG58/U & Q50 with TNC-TNC connector 9904U utenna adapter Q50 TNC (Male) - SMA (Female) 0906U utenna adapter Q50 TNC - TNC 0951U utenna adapter Q50 TNC - TNC 0952U arious Cables 0902 ersion Order Code over Supply cable 3 meter with M12 connector & open ends 0901A object Supply cable 3 meter with M12 connector & open ends 0905A offbus M12 Y - connector 0907A offbus M12 T - connector 0906A ofbus M12 Currencetor 0906A over Supply M12 connector 0910A over Supply M12 connector 0910A	/ersion	Order Coder
S232 interface cable 3 meter with M12 & Sub-D9 connector	thernet interface cable 3 meter with M12 & RJ45 connector	0902A
6232 / RS485 interface cable 3 meter with M12 connectors 0904A offibus interface cable 3 meter with M12 connectors 0908A nterna Cables	ISB interface cable 1 meter with M12 Mini USB & USB A connector	0909A
offibus interface cable 3 meter with M12 connectors 0908A ntenna Cables Project Code arision Order Code itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U itenna adapter Q50 TNC (Male) - SMA (Female) 0996U itenna adapter Q50 TNC - TNC 0951U itenna adapter Q50 TNC - TNC 0951U itenna terminator Ω50 Order Code arisious Cables Order Code sersion Order Code ower Supply cable 3 meter with M12 connector & open ends 0901A object Special Connectors 0905A 212 Connectors 0905A 212 Connectors 0905A 213 Connector 0905A offbus M12 Y - connector 0905A ofbus M12 T - connector 0905A ofbus M12 terminator 0906A ower Supply M12 connector 0910A ofbus M12 connector 0910A ofbus M12 connector 0913A 0 M12 connector 0914A ofbus M12 connector <td>RS232 interface cable 3 meter with M12 & Sub-D9 connector</td> <td>0903A</td>	RS232 interface cable 3 meter with M12 & Sub-D9 connector	0903A
Interna Cables Order Code ersion 9903U Itenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Itenna adapter Ω50 TNC (Male) - SMA (Female) 0906U Itenna adapter Ω50 TNC - TNC 0951U Itenna adapter Ω50 TNC - TNC 0951U Itenna adapter Ω50 TNC - TNC 0952U Itenna terminator Ω50 0952U arious Cables 0901A ersion Order Code over Supply cable 3 meter with M12 connector & open ends 0905A 12 Connectors 0905A 12 Connectors 0905A 12 Connector 0905A 0flbus M12 Y - connector 0905A 0flbus M12 T - connector 0905A 0flbus M12 T - connector 0906A oflbus M12 terminator 0906A ower Supply M12 connector 091A 0flbus M12 connector </td <td>RS232 / RS485 interface cable 3 meter with M12 connector & open ends</td> <td>0904A</td>	RS232 / RS485 interface cable 3 meter with M12 connector & open ends	0904A
cersion Order Code attenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U attenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U attenna adapter Ω50 TNC (Male) - SMA (Female) 0906U attenna terminator Ω50 0952U attenna terminator Ω50 0952U attenna terminator Ω50 Order Code attenna terminator Ω50 Order Code attenna terminator Ω50 Order Code attenna terminator Ω50 Op952U attenna terminator Ω50 Order Code attenna terminator Ω50 Op901A attenna terminator with M12 connector & open ends 0901A attenna M12 Y - connector 0905A attenna M12 Y - connector 0905A attenna M12 Y - connector 0906A attenna M12 Y - connector 0906A attenna M12 connector 091A atte	Profibus interface cable 3 meter with M12 connectors	0908A
Intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9903U Intenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U Intenna adapter Ω50 TNC (Male) - SMA (Female) 0906U Intenna adapter Ω50 TNC - TNC 0951U Intenna terminator Ω50 0952U Intenna terminator Ω50 0901A Intenna terminator Q50 0901A Intenna terminator Q50 0901A Intenna Mountain Kits 0907A Intenna Mounting Kit for antenna 9124U, 9125U, 9126U & 912TU 9921U	Antenna Cables	
stenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector 9904U stenna adapter Ω50 TNC (Male) - SMA (Female) 0906U stenna adapter Ω50 TNC - TNC 0951U stenna terminator Ω50 0952U carious Cables 0907A ersion Order Code over Supply cable 3 meter with M12 connector & open ends 0901A o cable 3 meter with M12 connector & open ends 0905A 12 Connectors 9905A ersion Order Code offibus M12 Y - connector 0907A offibus M12 T - connector 0906A offibus M12 terminator 0906A over Supply M12 connector 0910A offill connector 0911A offill sh M12 connector 0911A offill connector 0911A offill connector 0913A sc23 / RS485 M12 connector 0913A offill connector 0913A offill connector 0914A offill connector 0914A offill connector 0913A offill connector 0914A offill c	Version	Order Coder
Intenna adapter Ω50 TNC (Male) - SMA (Female) 0906U stenna adapter Ω50 TNC - TNC 0951U stenna terminator Ω50 0952U stenna terminator Ω50 0952U stenna terminator Ω50 0952U stenna terminator Ω50 0952U stenna dapter Ω50 TNC - TNC 0907A stenna dapter Ω50 TNC - TNC 0901A stenna dapter Ω50 TNC - TNC 0901A stenna dapter Ω50 TNC - TNC 0905A stenna dapter Ω50 TNC - TN	Antenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector	9903U
arieuna adapter Ω50 TNC - TNC 0951U op52U o	untenna cable 3 meter RG58/U & Ω50 with TNC-TNC connector	9904U
arious Cables Persion Order Code Ower Supply cable 3 meter with M12 connector & open ends 0901A Ocable 3 meter with M12 connector & open ends 0905A 12 Connectors Value of the supply of the	Antenna adapter Ω50 TNC (Male) - SMA (Female)	0906U
Arrious Cables Persion Order Code Over Supply cable 3 meter with M12 connector & open ends Ocable 4 meter with M12 connector & open ends Ocable 4 meter with M12 connector & open ends Ocable 4 meter with M12 connector & open ends Ocable 4 meter with M12 connector & open ends Ocable 4 meter with M12 connector & open ends Ocable 5 meter with M12 connector & open ends Ocable 5 meter with M12 connector & open ends Ocable 6 meter with M1	Antenna adapter Ω50 TNC - TNC	0951U
Persion Order Code Ower Supply cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector O confibus M12 Y - connector & open ends O confibus M12 Y - connector & open ends O confibus M12 Y - connector & open ends O confibus M12 Connector & open ends O confibus M12 connector & open ends O connector & o	Antenna terminator Ω50	0952U
over Supply cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends O cable 3 meter with M12 connector & open ends 12 Connectors ersion Order Code ofibus M12 Y - connector ofibus M12 T - connector ofibus M12 T - connector ofibus M12 terminator Open Supply M12 connector Open Supply M12 connec	/arious Cables	
0 cable 3 meter with M12 connector & open ends 0905A 12 Connectors Prision Order Code offibus M12 Y - connector 0907A offibus M12 T - connector 0956A offibus M12 terminator 0906A ower Supply M12 connector 0910A 0 M12 connector 0911A offibus M12 connector 0912A offibus M12 connector 0913A offibus M12 connector 0914A offibus M12 co	/ersion	Order Coder
12 Connectors	Power Supply cable 3 meter with M12 connector & open ends	0901A
Persion Order Code ofibus M12 Y - connector 0907A ofibus M12 T - connector 0956A ofibus M12 terminator 0906A ower Supply M12 connector 0910A o M12 connector 0911A ofibus M12 connector 0912A ofibus M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ottenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	O cable 3 meter with M12 connector & open ends	0905A
ofibus M12 Y - connector 0907A ofibus M12 T - connector 0956A ofibus M12 terminator 0906A ower Supply M12 connector 0910A 0 M12 connector 0911A ofibus M12 connector 0912A hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	M12 Connectors	
ofibus M12 T - connector 0956A ofibus M12 terminator 0906A ower Supply M12 connector 0910A 0 M12 connector 0911A ofibus M12 connector 0912A hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	ersion error er	Order Coder
ofibus M12 terminator 0906A ower Supply M12 connector 0910A 0 M12 connector 0911A ofibus M12 connector 0912A hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	Profibus M12 Y - connector	0907A
ower Supply M12 connector 0910A 0 M12 connector 0911A ofibus M12 connector 0912A hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	Profibus M12 T - connector	0956A
0 M12 connector 0911A ofibus M12 connector 0912A hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	Profibus M12 terminator	0906A
ofibus M12 connector 0912A hernet M12 connector 0913A 5232 / RS485 M12 connector 0914A Intenna Mountain Kits Order Code ersion Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	Power Supply M12 connector	0910A
hernet M12 connector 0913A 6232 / RS485 M12 connector 0914A Intenna Mountain Kits ersion Order Code htenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U	O M12 connector	
S232 / RS485 M12 connector 0914A Intenna Mountain Kits Sersion Order Code Intenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U		
Intenna Mountain Kits Persion Order Code Intenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U		
Order Code ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U		0914A
ntenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U 9921U		Oudou Ocalaa
ntenna Mounting Kit for antenna 9128U & 9129U 9922U	Antenna Mounting Kit for antenna 9124U, 9125U, 9126U & 9127U	
ntenna Mounting Kit for antenna 9130U & 9131U 9923U	Antenna Mounting Kit for antenna 9128U & 9129U Antenna Mounting Kit for antenna 9130U & 9131U	

The accessories are optional and not included by delivery